

## **3.0 Introduction**

### **Overview of Chapter 3**

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This section of the Risk Integrated System of Closure (RISC) User's Guide provides a stand-alone RISC resource for underground storage tank (UST) owners, operators, and consultants dealing solely with petroleum and regulated hazardous substance releases. As such, this chapter contains extensive guidance for regulated USTs, including information on initial notification, UST removal, release reporting, site characterization, corrective action, Excess Liability Trust Fund (ELTF) reimbursement, and closure.

In addition, this chapter describes how to achieve closure of sites with contaminated soil and ground water associated with leaking underground storage tanks, and is an update of the RISC User's Guide Chapter 3, dated February 15, 2001. The User's Guide applies to all UST closures and UST releases reported after February 15, 2002. However, rules and statutes that are referenced may have been amended, so the applicable rule or statute must be examined in conjunction with using this Guide.

### **Applicable Regulatory Programs Located Within the IDEM**

Throughout the lifecycle of an UST system including site assessment and subsequent remedial activities that involve a substance release, it will be necessary to work with several different programs located within the Indiana Department of Environmental Management (IDEM) to achieve compliance and/or closure for your facility. The following is a brief introduction to each respective program's roles and responsibilities:

### **Underground Storage Tank Program**

The UST program is responsible for the following –

- Processing "Notification of Underground Storage Tanks" form submittals
- Coordinating with the Department of Revenue regarding UST fee assessment
- Inspecting UST equipment and operation and maintenance of UST systems for compliance with the current standards
- Overseeing and reviewing UST closures
- Educating the regulated community regarding UST requirements.

### **Leaking Underground Storage Tank Program**

The LUST program is responsible for the following –

- Receiving release reports for USTs
- Reviewing and commenting on technical reports including, but not limited to, 20-Day Abatement, Initial Site Characterization, Further Site Investigation, Corrective Action Plan, and Corrective Action Progress Reports submitted for LUST sites
- Ensuring substantial compliance with LUST requirements
- Reviewing site information for no-further-action determination
- Education of the regulated community regarding LUST requirements

### **Excess Liability Trust Fund Program**

The ELTF program is responsible for the following –

- Determining ELTF eligibility for expenditures related to UST releases
- Reviewing “Notice of Intent” submittals for UST system property transfers
- Reviewing claims for eligible expenses
- Prioritizing claims for payment as necessary

The following tables provide contact numbers and web addresses to support/assist you when working within the different State programs:

**Table 1. Program and Related Topic Contact Information**

<b>Program</b>	<b>Telephone</b>	<b>Fax</b>	<b>Email</b>
IDEM Hotline	317/232-8603 800/451-6027	Not available	Not available
Office of Land Quality	317/232-8941	317/234-0428	Not available
Emergency Response Spill Line	317/233-7745 888/233-7745	317/308-3063	Not available
Leaking UST release reporting and corrective action	317/232-8900	317/234-0428	LeakingUST@idem.in.gov
UST notification, reporting and closure	317/308-3024	317/308-3063	Not available
UST fee assessment	317/234-0343	317/234-0428	jmendel@idem.in.gov
ELTF notice of intent, eligibility and claims	317/234-0990	317/234-0428	ELTFClaims@idem.in.gov
Geology and technology review	317/234-0991	317/234-0428	Not available
Chemistry	317/232-3512	317/234-0428	Not available
Risk Integrated System of Closure	317/232-8997	317/234-0428	idemrisc@idem.in.gov
Engineering	317/242-5884	317/234-0428	Not available
State Cleanup Program	317/234-0360	317/234-0428	Not available
Voluntary Remediation Program	317/234-0360	317/234-0428	Not available
State Fire Marshal	317/232-2222 800/423-0765	317/233-0307	Not available
IOSHA	317/232-2655 800/743-3333	317/233-3790	Not available
American Petroleum Institute	202/682-8375	Unknown	<a href="http://www.api.org">www.api.org</a>

**Table 2. Program Web Sites**

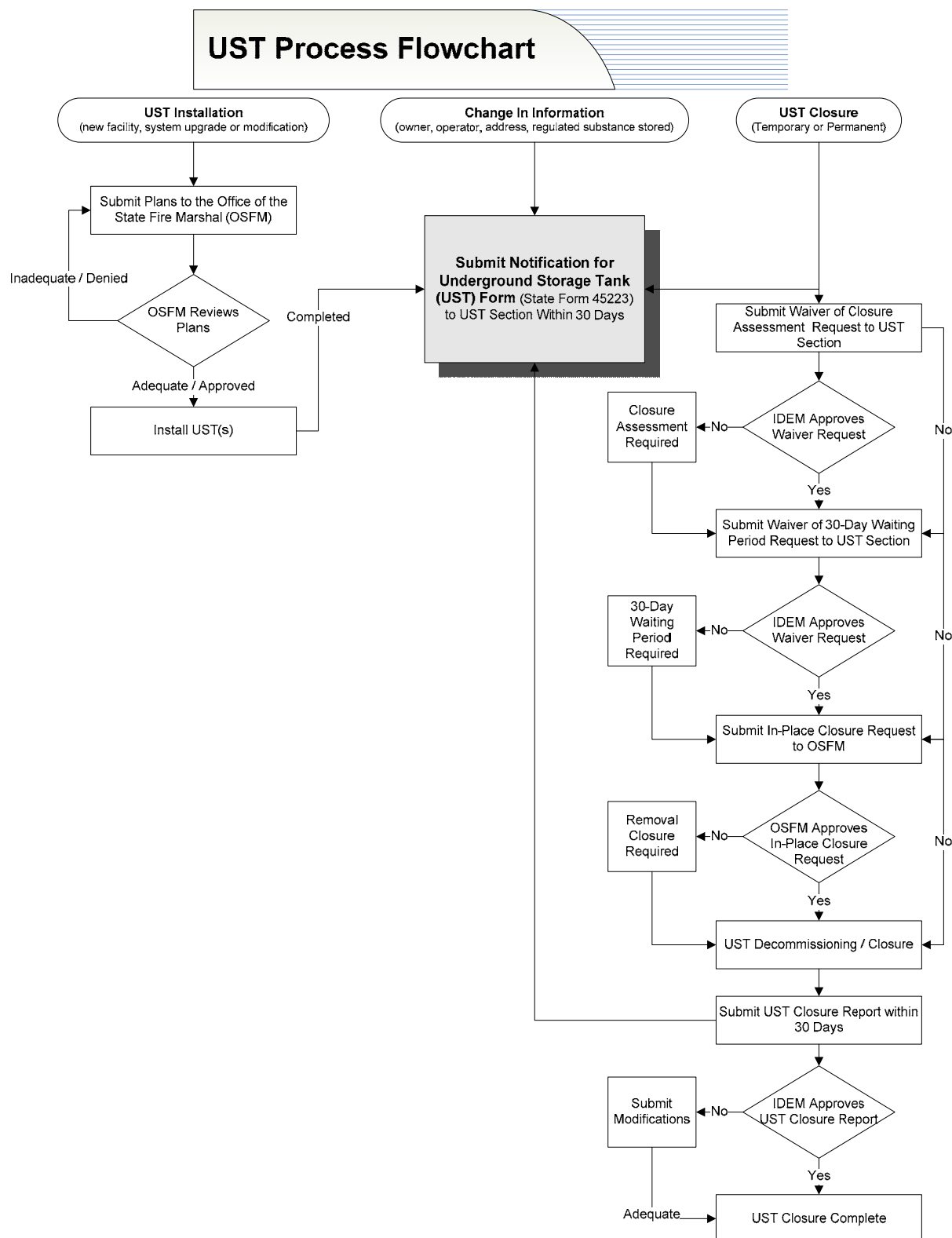
<b>Program</b>	<b>Web Site</b>
Underground Storage Tank (UST)	<a href="http://www.in.gov/idem/programs/land/ust/index.html">http://www.in.gov/idem/programs/land/ust/index.html</a>
Leaking Underground Storage Tank (LUST)	<a href="http://www.in.gov/idem/programs/land/lust/index.html">http://www.in.gov/idem/programs/land/lust/index.html</a>
Excess Liability Trust Fund (ELTF)	<a href="http://www.in.gov/idem/programs/land/eltf/index.html">http://www.in.gov/idem/programs/land/eltf/index.html</a>
Risk Integrated System of Closure (RISC)	<a href="http://www.in.gov/idem/programs/land/risc/index.html">http://www.in.gov/idem/programs/land/risc/index.html</a>

### **3.1                    Underground Storage Tank Notification, Reporting, Fees, and Closure Requirements**

This information provides an overview of UST systems regulated in accordance with Indiana Administrative Code, Title 329, Article 9 (329 IAC 9). This information will aid tank owners/operators in UST system notification, registration, and permanent closure procedures. The applicable section(s) of 328 IAC 1 and 329 IAC 9 (including definitions); IC 13-23 and IC 13-11 (for statutory definitions) should always be consulted in conjunction with this chapter.

Figure 3-1 is a flowchart illustrating the lifecycle of an UST system. The chart also indicates the appropriate actions to take if a release is discovered.

Figure 3-1  
UST Process Flowchart



### 3.1.1 Notification Requirements

#### General Notification

As described in 329 IAC 9-2-2 and 329 IAC 9-3-1, the owner/operator must complete a Notification for Underground Storage Tanks form (State Form 45223), within 30 days when:

- UST systems or tanks are brought into use
- UST systems are acquired by a new owner
- UST systems are upgraded (tank lining, piping replacement, leak detection system, or equipment installation, spill/overfill prevention equipment, or corrosion protection) or repaired (restoration of a tank or UST system component that has caused or could potentially cause a release of product from the UST system)
- UST systems are temporarily closed
- UST systems undergo a change-in-service
- UST systems are closed

#### Closure Notification

In accordance with 329 IAC 9-6-2.5 and 329 IAC 9-3-1, a request for closure should be provided to the IDEM UST Section at least 30 days before an UST system closure (removal, in-place, or change-in-service), UST system repair, or UST lining. Please use State Form 45223 Notification for Underground Storage Tanks form when requesting closure.

Within 30 days after an UST system closure, this form (Notification for Underground Storage Tanks, State Form 45223) must be submitted *again* with an UST System Closure Report. If these documents are not submitted *together*, they will be returned to the UST owner/operator as incomplete.

#### Document Submittal

In accordance with the requirements established in 329 IAC 9-2-2, all documents required by the UST Section must include an original signature *in ink* by either the owner/operator or an authorized representative. If an owner/operator authorizes a representative to sign forms, then a document must be submitted to authorize the representative. This authorization document must include the following:

- UST system facility name and address;
- Representative name and address;
- Listing of documents that the representative is authorized to sign; and
- Owner name signed *in ink*.

A copy of the authorization must accompany each document that is signed by the owner/operator's representative.

As the State requires that individuals/companies performing tank installations, closures, upgrades, removals, change-in-service, and testing be certified by the Office of State Fire Marshal (OSFM), the contractor must also sign and provide the OSFM certification number on the Notification for Underground Storage Tanks, State Form 45223.

### **3.1.2 Tank Fee Assessment Program**

The Underground Storage Tank Fee Assessment Program was established in 1989 to collect tank fees from *owners* of regulated USTs. For the purposes of the Tank Fee Assessment Program, regulated USTs are defined as follows:

- Greater than 110 gallons in commercial or industrial use
- Greater than 1,100 gallons in agricultural or residential use
- Not otherwise exempt by State statute or rule

This assessment program pertains to USTs containing regulated petroleum products or hazardous substances as defined in Section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980. The list of hazardous substances is found at 40 CFR 302.4.

#### **Fee Assessment and Use of Fee Monies**

As described in IC 13-23-12, a regulated petroleum UST fee is \$90.00/year and a hazardous substance UST fee is \$245.00/year. These fees are divided among three funds:

- \$45.00/tank/year of the petroleum UST fee goes to the Underground Petroleum Storage Tank Excess Liability Trust Fund (ELTF). The ELTF provides financial assurance for tank owners and operators, and reimburses them for cleanup of their sites in compliance with 40 CFR Part 280 and 329 IAC 9. In addition to cleanup costs, administrative costs of the ELTF Program are taken from this fund.

- \$45.00/tank/year of the petroleum UST fee goes to the Underground Petroleum Storage Tank Trust Fund (UPSTTF). The UPSTTF pays for State funded cleanup of abandoned leaking petroleum USTs (or for sites where the owner/operator is recalcitrant), administrative costs and state match for the LUST grant funding received from the U.S. Environmental Protection Agency.
- \$245.00/tank/year of the hazardous substances UST fee goes to the Hazardous Substances Response Trust Fund (HSRTF). The HSRTF pays for cleanup of uncontrolled hazardous waste sites, administrative costs, and state match for grant funding and federally funded cleanups.

### **Fee Assessment Period**

Currently, the fee assessment period begins July 1 of each year and concludes on June 30 of the following year. The IDEM coordinates the Fee Assessment Program with the Indiana Department of Revenue's Special Tax Division. Although the assessment period begins on July 1, the Special Tax Division does not mail invoices until the fall of the year. Receipt of payment is due no sooner than 30 days after the assessment date. This due date is specified on each year's invoices (UST-1 form).

For questions regarding the processing of a payment, the Department of Revenue can be contacted.

### **Fee Payment**

As described in IC 13-23-12, payment of tank fees can be made in two ways:

- Payment may be made in full on the due date specified on the invoice (UST-1 form).
- For owners whose tank fee exceeds \$500.00, payment may be made in four (4) equal installments. The applicable payment portion of the voucher sheet (UST-2 form) must be included with each installment payment.

### **Fee Assessment Information**

The UST Section obtains fee assessment information on owners, facilities, and tanks from the IDEM's UST database. The database information is gathered from the Notification for Underground Storage Tanks form (State Form 45223), submitted by owners and operators. If there have been any changes in an UST facility since the last notification submittal (i.e., if a tank has been closed at a facility), this should be indicated on a Notification for Underground Storage Tanks

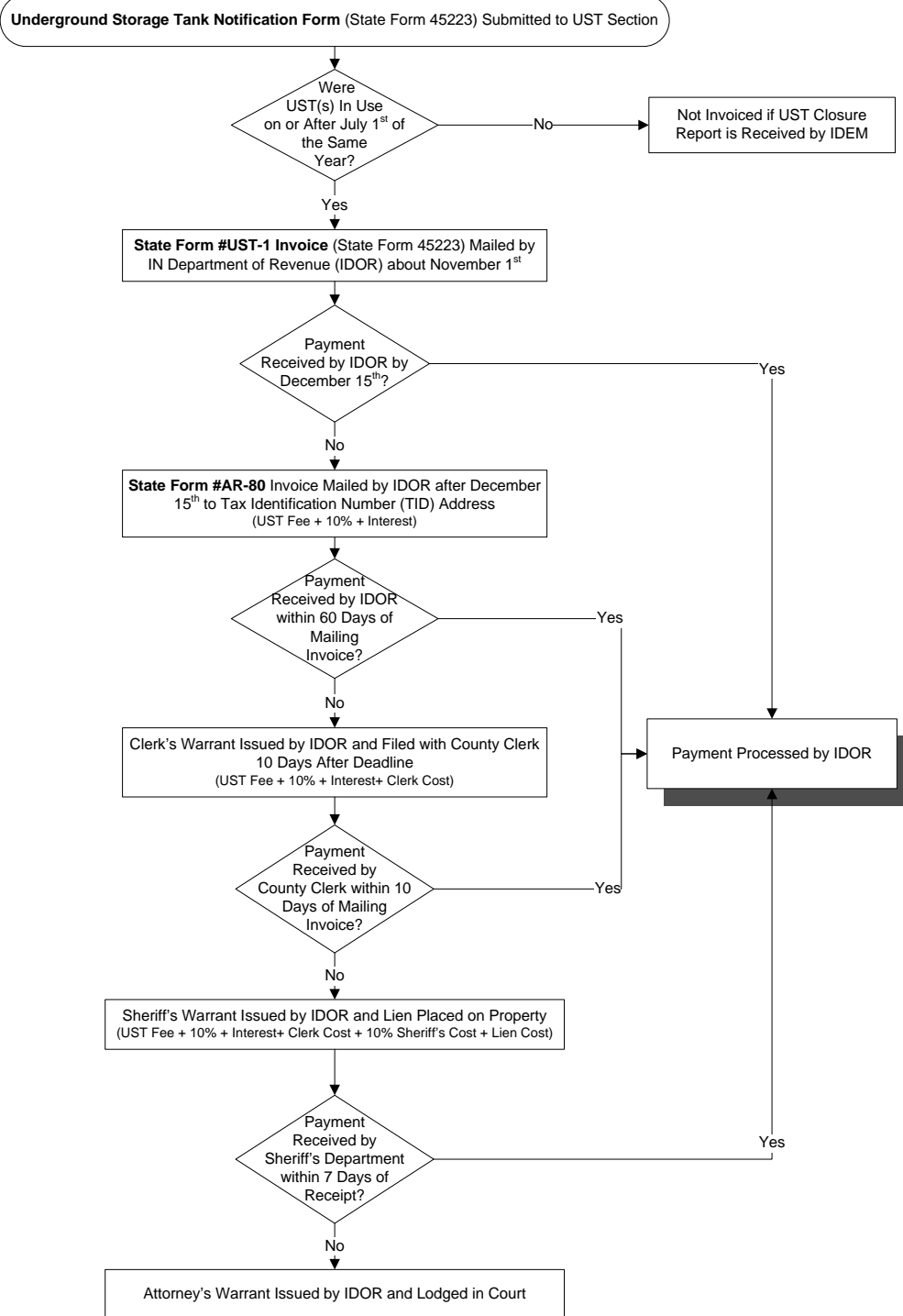


form (State Form 45223) in order for accurate fee assessments to be made.

Figure 3-2 illustrates the UST fee assessment process.

**Figure 3-2**  
**UST Fee Assessment Flowchart**

## UST Fee Assessment Flowchart



For questions regarding why or how a tank fee was assessed, the UST Section of the IDEM should be contacted.

### 3.1.3 UST System Closure

In order to close a regulated UST system in Indiana, the following rules **must** be followed:

- 40 CFR 280 (Federal Regulations)
- 329 IAC 9 and 327 IAC 2-6.1 (State Rules)
- 675 IAC 22 (Indiana Fire Prevention Code)

#### **Regulated vs. Unregulated Tank Status and Registration Requirements**

Tanks closed or out of operation (a tank is considered out of operation if it is completely empty and the fill pipe is not accessible) on or before January 1, 1974, are **not regulated**. There are no notification requirements to the IDEM prior to closure, although the Fire Code still applies during removal activities. If at any time during the closure of unregulated USTs contamination is discovered, the contamination must be reported to IDEM Emergency Response and cleaned up as required by 327 IAC 2-6.1, IC 13-24-1, IC 13-25-4, etc.

All tanks in the ground before May 8, 1986 (unless taken out of operation), are **regulated**, but were **not required to have been registered**. You must notify the IDEM prior to closure and perform an UST closure assessment as required by 329 IAC 9-6-2.5.

All tanks in the ground on or after May 8, 1986, (unless taken out of operation) **are regulated**, and are **required to be registered**. You must notify the IDEM prior to closure and perform an UST closure procedure as required by 329 IAC 9-6-2.5.

If you are unable to determine the regulated status of a particular UST after consulting the applicable regulations, contact the IDEM, UST Section.

#### **UST System Closures**

There are **three types of regulated UST system closures**: removal, in-place closure, and change-in-service closure.

- **Removal** – A “removal” closure is when all USTs, piping and dispensers are physically removed.
- **In-place** – An “in-place” closure is when a portion or all of the USTs, piping, and dispensers are closed without removal. In-

place closures require prior approval from IDEM. The conditions for obtaining approval include, but are not limited to, all or a portion is inaccessible due to buildings or structures.

- **Change-in-service** – A “change-in-service” closure is when a UST system is converted from being used to store regulated substances to unregulated substances. Change-in-service closures require prior approval from IDEM.

### **Notification Requirements Prior to Removal, In-place Closure and Change in Service**

#### UST System Removal, In-place Closure, and Change in Service

- All UST systems in place after May 8, 1986, must be registered with the IDEM UST Section (completed Notification for Underground Storage Tanks form (State Form 45223)).
- For all tanks in place after January 1, 1974, Notification of intent to close must be given using the Notification for Underground Storage Tanks form (State Form 45223), at least 30 days before closure activity begins.
- IDEM UST Section will respond in writing with the closure approval date (closure approval letter will expire 90 days after date given).
- The closure approval letter must be kept onsite at all times during closure activities.
- A contractor or individual certified through the Office of State Fire Marshal (OSFM) must be used for closure (at least one certified person must be on site at all times).
- In addition to the 30-day notice, the IDEM UST Section, the OSFM and the local fire department should be given at least 14 days prior notice (by phone) of the intended closure date.
- An UST system closure site assessment must be performed to determine if contamination is present. Within 30 days after permanent closure, a completed Notification for Underground Storage Tanks form (State Form 45223), and an UST System Closure Site Assessment Report must be filed with the IDEM UST Section. (This will prevent improper assessment of annual UST system fees for permanently closed UST systems).
- An in-place closure or a change-in-service may not begin until the owner receives written approval from the IDEM UST Section.

#### UST System Closure Waiver

If a permanent closure is determined necessary due to a release or leak from an UST system, then a waiver of the 30 day period may be granted. All UST systems must be registered with the IDEM UST

Section prior to waiver approval. The following conditions apply when requesting a waiver:

- An IDEM Spill Number or LUST Incident Number is required before a waiver is given. Follow the reporting procedures outlined in Section 3.3
- The OSFM and local fire department must be notified prior to closure.
- Within 30 days following closure, a completed Notification for Underground Storage Tanks form (State Form 45223), and one copy of the UST System Closure Site Assessment report must be sent to the IDEM UST Section.

### **Requirements for the UST System Closure Environmental Site Assessment**

An environmental site assessment is required for all regulated UST system closures and must be included into the UST System Closure Report. The report must be submitted to IDEM within 30 days after UST system closure completion. In addition, the site assessment must be consistent with RISC Technical Resource Guidance Document and User's Guide. The following is a summary of the requirements:

**Soil sampling** – Soil samples should always be collected from the area most likely to be contaminated based on visual observations, odor and appropriate field screening, e.g. photoionization detector (PID), flame ionization detector (FID) or gas chromatograph. Samples are required from the bottom of the excavation. Soil samples always must be collected from native soil (i.e., the soils that were in place at the site prior to tank installation). The only exception to this would be samples collected from excavated materials which typically consist of fill.

Specific UST soil sampling requirements are presented in the tables that follow:

***UST Removal Soil Sampling Requirements***

<b>Bottom Soil Samples</b>	USTs <10,000 gallons - two (2) within two (2) feet below both ends of the each UST
	USTs >10,000 gallons, one (1) additional within two (2) feet below the middle of the UST
<b>Sidewall Samples</b>	UST pit perimeter <80 feet – four (4) sidewall samples collected from half the distance between the surface and the bottom of the UST excavation or the area most likely to be contaminated based on field observation.
	UST pit perimeter >80 feet – one sidewall sample for every 20 linear feet collected from half the distance between the surface and the bottom of the UST excavation or the area most likely to be contaminated based on field observation.
<b>Piping Samples</b>	Pipe run <20 feet – one (1) sample half way between UST and dispenser or fill port
	Pipe run >20 feet - one (1) sample for every 20 linear feet of pipe run
	One sample under every piping elbow or connector
<b>Dispenser Samples</b>	One sample under each dispenser
<b>Excavated Material</b>	Sampling of excavated material must occur for every 50 cubic yards of material that is treated, disposed or returned to the excavation area as backfill. Soils with COCs exceeding the RISC IDCLs should not be returned to the excavation.

***In-place Closure and Change-in-service Boring Placement and Soil Sampling Requirements***

<b>Tank Pit Samples</b> (Samples obtained from one (1) continuously sampled boring within three (3) feet of the UST and then placed every 20 linear feet around the UST, with a minimum of four (4) borings and extended at least two (2) feet below the bottom of the UST)	Borings <15 feet – Two (2) samples: one at midpoint and one at bottom of boring
	Borings >15 feet – Three (3) samples: one at >1 foot below ground surface, one at the midpoint, and one at the bottom
<b>Piping Samples</b> (Samples obtained from borings placed within three (3) feet of and two (2) feet below pipe run, elbow or connector)	Pipe run <20 feet – one (1) sample half way between UST and dispenser or fill port
	Pipe run >20 feet - one (1) sample for every 20 linear feet of pipe run
	One sample under every piping elbow or connector
<b>Dispenser Samples</b> (Samples obtained from boring placed within three (3) feet of a dispenser island. The sample should be obtained from a depth of approximately 2 feet beneath each dispenser location)	One sample under each dispenser

**Note:** If the exact location of the UST and piping is not known, the borings locations should be determined based upon non-invasive methods such as ground penetrating radar (GPR).

**Ground Water Sampling** – If ground water is encountered during UST removals or change-in-services ground water samples are required to be collected.

***Removal, In-place, and Change-in-Service***

<b>UST Excavation</b>	One (1) ground water sample from each excavation where it is encountered (for removal only)
<b>Soil Borings</b>	A water sample must be collected within the first saturated zone located below the top of the UST. If ground water is not encountered at 30 feet or there is refusal, a soil sample should be collected at the base of the boring

**Soil and Ground Water Sample Analyses**—The following table presents the sampling requirements (for both soil and ground water) for each constituent. Note: The IDEM reserves the right to modify these requirements dependent upon historical site conditions and the type and nature of the release.



<b>Gasoline</b>	TPH GRO; BTEX and MTBE
<b>Mid-range liquid hydrocarbon fuels</b> (diesel, #2 fuel oil, kerosene, aviation gasoline, and jet fuel)	TPH ERO, BTEX, MTBE, cPAHs, and naphthalene
<b>Hydrocarbon oils</b> (virgin motor oil, fuel oil #4, 5, and 6)	TPH ERO, PAHs, and naphthalene
<b>Used or Waste Oil</b>	TPH ERO, VOCs, PAHs, and naphthalene (site specific only – metals and PCBs)
<b>Other refined petroleum products and hazardous substances</b>	The IDEM LUST Program should be contacted to develop a COC list

\*Note: TPH GRO range is defined as C5 – C12 and TPH ERO range is defined as C8 – C36.

If at any time, during the closure process, you suspect or confirm a release, you must report the release to IDEM within 24 hours:

### **UST System Closure Report**

The following information is **required** in an UST Closure Report:

#### Responsible Party

- The UST system facility's owner/operator name, IDEM owner I.D. number (if known), address, phone number;
- The name of the UST system facility contact person, owner/operator affiliation, phone number; and
- Owner/operators for the past twenty-five years.

#### UST Contractor

- UST closure contractor company name and address; and
- Name and OSFM certification number of person(s) on site during closure.

#### UST Site

- Facility name, IDEM Facility I.D. number (if known), address and phone number;
- Type of facility and past and current operations;
- Coverage (turf, concrete, asphalt, etc.);
- History of any spill reports, by incident number;
- Site proximity to both human and environmentally sensitive areas;
- Site native soil texture (i.e., percent of sand, silt, and clay); and
- Site specific map(s) with appropriate scale and legends to show site details described below:
  - Illustrated legends and compass directions at appropriate scale;
  - Drainage features (surface slope/surface water runoff direction);

- Identified above ground features (buildings, roadways, pump islands, utility lines, etc.);
- Property lines;
- Identified subsurface features (tanks and excavation pit, piping, utility conduits, etc.);
- Locations of samples (S1, S2, etc.), soil borings (SB1, SB2, etc.), and monitoring wells (MW1, MW2, etc.);
- Locations of previously closed tanks (if applicable); and
- Site surroundings (adjacent buildings, land use, business descriptions).

Underground Storage Tank(s):

(The following information refers to the tanks being closed);

- Previous owner history (past 25 years)
- Number and volume of tank(s);
- Past and present contents of tank(s);
- Construction material of tank(s);
- Age and installation date of tank(s);
- Leak detection methods used;
- Records of tank tightness test results (most recent);
- Most current records of any other leak detection method results (inventory records, ground water or vapor monitoring results); and
- Information on any previously closed UST systems (date closed, number, size, and product stored).

Sample Results

- Data from analysis of soil samples presented in tabular format;
- Data from analysis of water samples presented in tabular format;
- A signed Laboratory Certificate of Analysis listing analytical method, preparation method, date of sample receipts, and date of analysis (data submission requirements explained in detail in Section 3.4.4 of this chapter);
- Proper sample numbers for cross reference to UST site maps;
- Chain-of-Custody documentation and data from analyses of soil and water;
- Decontamination procedures/sampling procedures and techniques; and
- Data from analysis of waste oil sampling (where applicable).
- Quality Assurance/Quality Control documentation.

Miscellaneous Closure Documentation

- Soil and water disposal documentation

- Remaining product and sludge documentation. Tank and piping disposal documentation
- LUST Referral Sheet for Closure (all sites with contamination must fill out a LUST Referral Sheet—this includes contaminated backfill sites and sites where over excavation occurs).

As stated previously, the closure report must be submitted to the UST Section of the IDEM within **30 days** of tank closure. The IDEM UST Section will review each closure report and supply the owner of the tanks with a System Closure Report Review Checklist (SCRRC) within six months of the UST Section's receipt of the UST Closure Report. The SCRRC will document which areas have been sufficiently completed and those that are insufficient and require further documentation.

**The SCRRC is only intended to document the completeness of the UST system closure and reporting activities. A SCRRC deemed “complete” in no way releases an owner/operator from performing additional environmental investigations in the event that a release has occurred.**

### **LUST Referral and Incident Reporting**

During **any** UST closure, if a release is suspected or discovered, it must be reported to the IDEM **within 24 hours**. The release must be reported to IDEM following the procedures outlined in Section 3.3. This form is available online at

<http://www.in.gov/idem/programs/land/lust/initialincidentrpt.doc>.

If at any time during the closure process, an emergency condition is discovered such as explosive vapors found in buildings or utilities, call 911 and IDEM Emergency Response **immediately**. If conditions exist that require an immediate response such as non-explosive vapors in buildings or utilities or if free product is present on surface water, call the IDEM Emergency Response program **within 2 hours**.

Only releases from **regulated tanks** are reported to the LUST Section as described above. Releases from **non-regulated tanks** should be reported to the IDEM Emergency Response Program. Contact information for this program has been included in Table 1.

If a release is confirmed, under most circumstances, the nature and extent of contamination must be determined and corrective action is required.

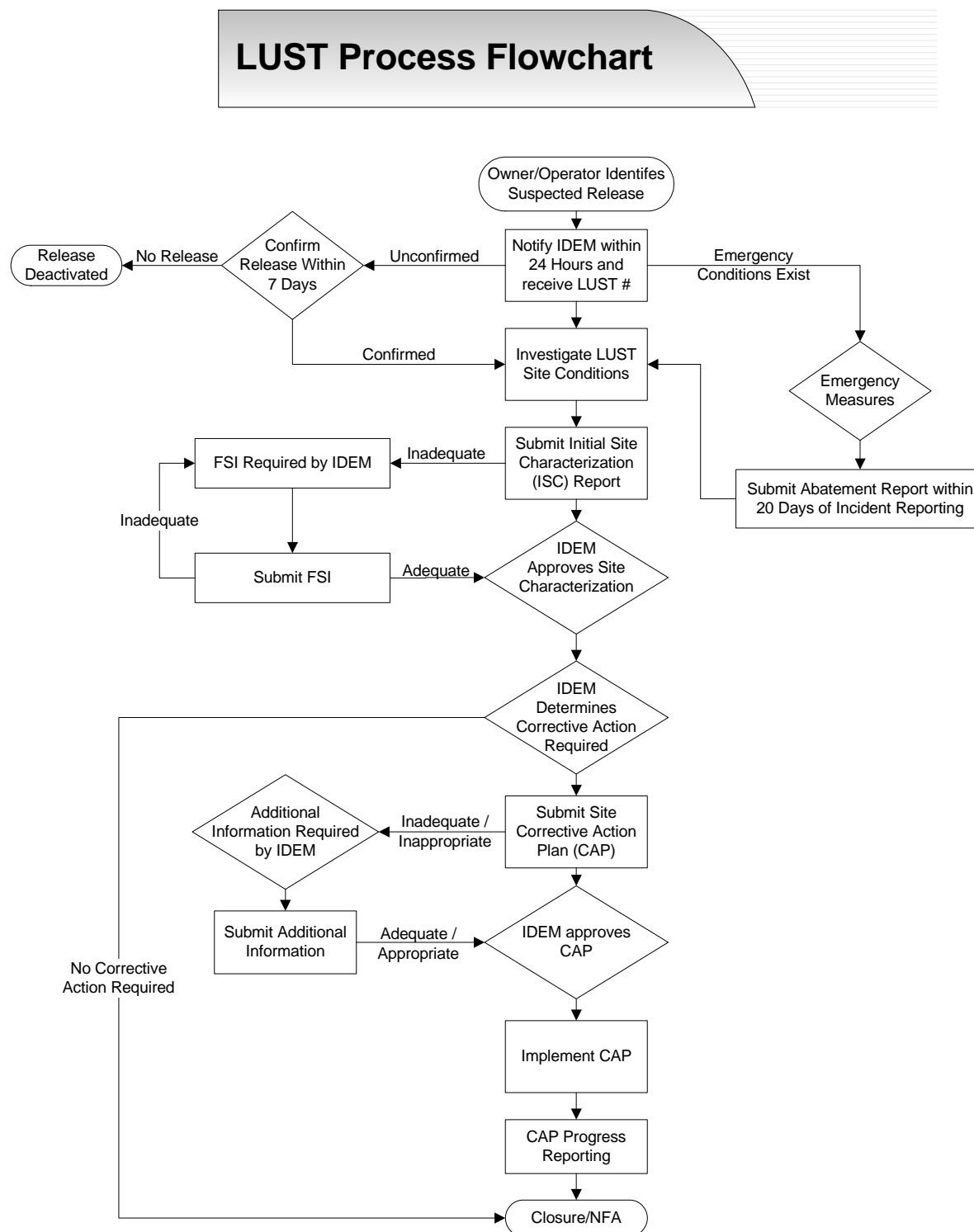
## **3.2            The LUST Process**

The following sections describe how to achieve closure of petroleum- and regulated substance-contaminated soil and ground water associated with leaking underground storage tanks using RISC.

**Note:** the term “regulated substance” includes hazardous substances; however, this chapter **does not** apply to waste tanks regulated under RCRA.

The following flowchart provides a broad overview of the LUST process:

**Figure 3-3**  
**LUST Process Flowchart**





### 3.3 Initial Incidents and Releases

In accordance with 329 IAC 9-4-1 and 329 IAC 9-4-4, there are three basic release situations: Emergency conditions, suspected releases, and confirmed releases. **Initial incident and release reporting to IDEM is required for all suspected and confirmed releases. Failure to report your incident within the time frame specified by IDEM will affect future ELTF eligibility.** A copy of the Initial Incident Report Form is provided in [Appendix 3.1](#). Copies of this document can also be obtained at the following LUST Internet link: <http://www.in.gov/idem/programs/land/lust/initialincidentrpt.doc>. Suspected and confirmed releases must be reported within **24 hours** of discovery to IDEM. This can be accomplished in one of three ways:

- Telephone – Report to LUST Program staff during normal business hours or Emergency Response Program staff after hours and weekends
- Fax – Send completed “LUST Release Report”
- E-mail – Send completed “LUST Release Report” to the LUST Program

See the contact information located in Tables 1 and 2 of this section for telephone and fax numbers as well as applicable e-mail addresses.

#### 3.3.1 Emergency Conditions

If emergency conditions exist, such as vapors in a habitable building, product or vapors in utility conduits, free product on surface water, and surface spills and overfills exceeding 25 gallons, initial reporting must be made in accordance with 327 IAC 2-6.1 within **2 hours**. All applicable phone and fax numbers have been included in Table 1 of this Chapter.

ELTF claims may be reimbursable using “Confirmation of Emergency Measures Status” procedures included in the ELTF Application, State Form 47139 (R3/11-02). Claimants should coordinate with the assigned IDEM Project Manager.

### 3.3.2 Suspected Releases [329 IAC 9-4-1 and 329 IAC 9-4-3]

In accordance with 329 IAC 9-4-1 and 329 IAC 9-4-3, suspected releases are recognized by the following conditions:

- Erratic behavior of product-dispensing equipment
- Sudden loss of product through inventory control checks
- Tank tightness test failure (Two consecutive failed tank tightness tests is considered a confirmed release.)
- Water present in UST
- Free product present
- Vapors are reported in basements, buildings, or nearby utility conduits
- Discovery of off-site impacts in soils, surface water, or ground water

**When obvious visual signs of contamination or odors are present, release notification should not be delayed by waiting for laboratory confirmation.** Suspected release reports must be reported to IDEM within **24 hours** by telephone, fax or email. All applicable phone and fax numbers have been included in Table 1 of this Chapter.

In accordance with 329 IAC 9-4-3, suspected release reports should include information specified in Part A of the release reporting information provided in Section 3.3.5. Owners and operators then have **7 days** to negate or confirm suspected release reports by providing **written documentation** via facsimile or mail to the following address:

Indiana Department of Environmental Management  
Leaking UST Section  
100 North Senate Avenue, Room 1101  
Indianapolis, IN 46204-2251

An incident number will be assigned at the time of the report. If information submitted negates the release report, the incident number will be “deactivated”.

### 3.3.3 Confirmed Release

A confirmed release must be reported to the IDEM within **24 hours** by either using one of the mechanisms outlined in Section 3.3.2.

A confirmed release is defined as follows:



- Soil contamination is present
- Ground water contamination is present
- Free product is present
- Contamination is confirmed in conduits such as utility lines or sewers
- Vapors are detected inside a building

**Any detection of contaminant(s) requires a release report.**

Confirmed release reports should include items specified in the release reporting information provided in Section 3.3.5.

### **3.3.4            20-Day Abatement and Free Product Removal Reporting**

One or more of the following conditions at LUST sites warrant immediate corrective action or mitigation:

- Presence of free product greater than  $\frac{1}{16}$  of an inch
- Presence of explosive vapors in utility conduits
- Presence of vapors in a habitable building
- Contamination of a drinking water supply at levels that exceed residential default closure levels
- Other conditions determined by IDEM that require mitigation

If any one of these conditions occurs, the owner or operator must submit a 20-day abatement report to IDEM within **20 days** from the date of release confirmation. **Note:** the free product discovery and abatement activities performed and documented on the 20-day Abatement Report will satisfy the free-product abatement and reporting requirements of 329 IAC 9-5-3.2.

### **3.3.5            Initial Incident and Release Reporting**

Reporting information requirements for suspected and confirmed releases are summarized below.

**Both suspected and confirmed releases**

1. Site name, address, contact person and telephone number, and UST facility identification number
2. UST system size and products contained
3. Owner or operator name, address, and telephone number

4. Reason(s) for suspecting a release
5. Future investigative steps

**Confirmed releases only**

6. Location of release (piping lines, dispensing island, USTs, joint connections, etc.)
7. Knowledge of release (failed tank tightness test, analytical results, catastrophic spill, etc.)
8. Affected area(s) (backfill, natural soil, ground water, surface water, utility lines, basements, etc.)
9. Site-specific information (affected utility conduits, drinking water intakes, or detection of free product)

Upon receipt of an Initial Incident Report, IDEM will assign a LUST incident number. This number and the UST facility identification number (FID) should appear on all future correspondence to IDEM. Failure to include these numbers may delay document review.

### **3.3.6 LUST Site Prioritization**

After initial incident reporting, the LUST site is prioritized so that the appropriate IDEM resources can be allocated to the project management. Site prioritization is based on the most appropriate site information typically available during initial LUST reporting. However, if site conditions change, the site priority could also change.

**High-priority** LUST sites are defined as sites with actual or potential receptor impacts that threaten human health or the environment through one or more of the following:

- Habitable buildings with vapors present
- Drinking water contamination
- Utility conduits with vapors or free product present
- Ecologically susceptible area affected
- Free product present
- Ground water contamination within a 1-year time of travel to a designated wellhead protection area

**Medium-priority** LUST sites are defined as sites where ground water has been affected, but no imminent threat to human health or the environment exists. The potential for receptor contamination will be evaluated for medium-priority sites.

**Low-priority** LUST sites are limited to sites where soil is contaminated but ground water contamination is not present or is unproven.

Factors used to rank sites within each priority category include the following:

- Type of product released
- Predominant soil type in the area
- Ground water flow direction and velocity

At times, site reprioritization may be necessary. For example, during tank removal, initial indications may show that only soil has been contaminated. However, further investigation may indicate ground water contamination as well. In this case, a site is reprioritized from low to medium priority. If a site requires higher prioritization, the owner or operator must notify IDEM within 24 hours of discovery.

### **3.4 The LUST Process and How it Relates to RISC**

Once a release associated with an UST system is discovered, the nature and extent of contamination must be determined using the RISC process. The remaining sections of this chapter are devoted to explaining how to define the nature and extent of contamination and ultimately achieve closure of your facility using RISC.

#### **3.4.1 Transition of LUST Sites from the 1994 Guidance to RISC**

While all releases reported after February 15, 2002, are **required** to use the RISC process to achieve closure, it is also possible to transition a site with an earlier release into RISC.

Because the RISC process uses different sampling methods and different laboratory analyses than the 1994 LUST Guidance, a re-evaluation of the site is permitted; however, the owner should also be aware of the following:

- The IDEM may require a cost feasibility study prior to field activities as it is not always cost-effective for a site to be transferred into RISC. Also, once approved, the RISC evaluation should be conducted in one mobilization to the site. RISC evaluations requiring two or more mobilizations may be eligible for reimbursement under ELTF when approved by

IDEM. Under most circumstances, a Sampling Plan should be submitted to IDEM for review and approval prior to beginning field activities. You should consult the IDEM LUST Project Manager prior to proceeding with this plan.

- During the re-evaluation, all borings should be advanced in strict accordance with RISC sampling procedures (i.e., step-out) and analyzed for the appropriate RISC contaminants of concern unless otherwise approved by IDEM. Whenever possible, data obtained from previous investigations should be substituted in lieu of installing additional borings or submitting additional samples to the laboratory for analysis. Excessive boring and sampling efforts during this re-evaluation will not be eligible for reimbursement under ELTF.
- Finally, once a site has been transferred into RISC, and this transfer has been approved by the IDEM Project Manager, it **may not** be transferred back to the 1994 LUST Guidance at a later date.

Remember that sometimes it is easier to transfer to RISC earlier in the closure process rather than later. For example, if an owner decides to transfer to RISC during the Corrective Action Plan (CAP) development phase, the Site Characterization approved under the 1994 LUST Guidance may no longer be acceptable under RISC, and additional delineation may be necessary prior to the development of the CAP.

In some scenarios, this transition may enable a tank owner to achieve a more cost-effective and expeditious closure; however, prior to initiating the transition of an existing LUST site into RISC, it is **strongly recommended** that the tank owner or tank owner's representative contact IDEM technical staff to explore options and identify expectations before any field activities are conducted.

### 3.4.2 RISC Default vs. Nondefault Guidance

Most of the guidance presented in this Chapter contains default procedures for site characterization. The term “**default**” refers to the use of a standard constant, equation, or evaluation that is prescribed for *general application* within the RISC Technical Guide. Typically, the default procedures described in this section can streamline a site investigation as they attempt to be a “one size fits all” approach.

The IDEM does realize however, that this “one size fits all” approach may not always provide the most practical, cost-effective, or expeditious route to closing a LUST site. Therefore, nondefault options are also available for conducting site activities. The term “nondefault” is essentially defined as any constant, equation, model, process, strategy, or evaluation that is not prescribed for general application. Examples of nondefault approaches are presented in the RISC Technical Guide.

The nondefault process is not, by definition, superior or inferior to the default process. However, if a nondefault approach is employed, there will be a greater need to interact with IDEM technical review staff throughout the closure process. For example, a rationale for the technical validity of the nondefault application may be required (such as the technical rationale for sampling differently from the default approach while demonstrating that closure objectives have been obtained). It should also be noted that certain nondefault procedures will require greater technical sophistication on the part of the professional performing the evaluation.

Finally, the nondefault approach will generally require the development of a quality assurance project plan (QAPP). Below are some examples where QAPP development would be appropriate:

- Petroleum products that do not have standardized contaminants of concern (COCs).
- Nondefault screening and characterization methods are used.
- Nondefault closure sampling is performed.

Additional information on QAPPs is provided in the RISC Technical Guide.

Because of the greater uncertainty associated with the nondefault approach, IDEM **strongly recommends** that such approaches be reviewed in a meeting with IDEM technical staff to explore options and identify expectations prior to conducting the assessment.

### **3.4.3 Petroleum Contaminants of Concern (COCs)**

The four (4) groups of petroleum hydrocarbons for which RISC has determined standard COCs are gasoline, mid-range liquid hydrocarbon fuels, hydrocarbon oils, and waste/used oil. The IDEM LUST website [http://www.in.gov/idem/programs/land/lust/risc\\_trans\\_guide.html](http://www.in.gov/idem/programs/land/lust/risc_trans_guide.html) provides a table listing all default closure values and COCs specific to LUST facilities.

Some petroleum hydrocarbon products do not have standardized COCs. Contaminants are determined on a site specific basis for these contaminants. These sites require a complete and detailed QAPP to identify the COCs. All parts of the QAPP must be completed, including data quality objectives (DQOs), a health and safety plan, a sampling and analysis plan, and a data quality assessment. Additional information on QAPPs is presented in the RISC Technical Guide. Guidance on acceptable analytical methods for appropriate estimated quantitation limits (EQLs) is provided in the RISC Technical Guide. OLQ's Chemistry Section may be contacted for information regarding analytical requirements for other contaminants.

Occasionally, as new information becomes available, the IDEM may need to update the RISC Default Closure Level Tables. Generally, this is done every two years, but may be more frequent for specific COCs. If and when this happens, any remediation for which the IDEM has already received a submittal, or a notice of intent to apply as of the date of the new posting, will be allowed to use the pre-existing values if they choose to do so. Those submitting after the effective date of change will be subject to the new values. Certain transition policies may apply.

**In order to ensure the most up-to-date default values are being considered for a site closure, you should refer to the default closure values identified on the LUST web site on a regular basis throughout the closure process.**

#### **3.4.4 Data Submission Requirements**

Proper sampling and laboratory analyses are required to verify site conditions. These requirements cover sample acquisitions, containers, preservation, shipping, holding times, storage, chain of custody, decontamination of equipment between samples, and sample analysis.

Sampling and analysis methods must be consistent with U.S. Environmental Protection Agency's (U.S. EPA) publication SW-846, "Test Methods for Evaluating Solid Wastes, Physical and Chemical Methods," Third Edition including all updates. Alternative laboratory methods should be approved by IDEM in advance. **Please note:** the IDEM requires that all soil analytical results be reported on a dry weight basis.

Quality Assurance/Quality Control (QA/QC) procedures outlined in the methods must be followed and the documentation should be available for submission to IDEM upon request. Laboratory detection

limits for all analyses should be low enough to effectively evaluate contaminant concentrations against RISC residential default closure levels.

When submitting sampling and analysis documentation, you should follow the “Minimum Data Documentation Requirements” (pursuant to 329 IAC 9-5-5.1(b)(2)(F) discussed in the remaining parts of this section. The information that must be included with all analytical submittals is as follows:

**Sampling Quality Assurance/Quality Control (QA/QC) Data and Information:**

- Completed chain-of-custody form
- Date and time each sample was taken
- Map or diagram indicating sample locations
- Any notable observations (color, clarity, texture, reaction with preservatives, etc.)
- Identity of field duplicates (a minimum of one duplicate for every 20 or fewer samples)

As outlined in IDEM’s Minimum Data Documentation Requirements, IDEM requires the collection of various QA/QC samples throughout different stages of the site characterization, corrective action, and closure process. These samples are identified as follows: Matrix Spike/Matrix Spike Duplicate (MS/MSD), Equipment Blank, Field Duplicate, and Trip Blank. The QA/QC requirements may vary depending on the stage in the process and site-specific conditions.

The IDEM LUST section **requires** the submittal of a MS/MSD sample for both soil and ground water during initial site characterization activities. The MS/MSD samples are **not required** during further site investigative activities or corrective action monitoring activities unless otherwise directed by IDEM staff. Prior to requesting site closure (during confirmatory soil and ground water sampling) an additional MS/MSD sample (for all affected media) will be required.

The following table outlines IDEM’s QA/QC sampling requirements and rationale:

<b>QA/QC Samples</b>	<b>Media Sampled</b>	<b>Comments</b>
<b>MS/MSD</b>	Soil and Ground water	This sample should be collected in a location with the least amount of suspected contamination. This sample indicates whether the matrix that the sample was collected from (i.e., soil) interferes with the accuracy and precision of the analytical method. It compares the relative percent difference (RPD) of each sample result. The MS/MSD sample should be collected at a frequency of 1 per 20 samples.
<b>Field Duplicate</b>	Soil and Ground water	This sample should be collected in a location with suspected contamination. The duplicate collection should occur as close as possible in space and time to the original sample location. This sample documents the variability of the sampling process and matrix homogeneity. It compares the RPD between the two results. The field duplicate should be collected at a frequency of 1 per 20 samples.
<b>Equipment Blank (Rinseate Blank)</b>	Soil and Ground water	This sample is collected only when non-dedicated sampling equipment is used. It is used to determine if decontamination procedures were adequate for non-dedicated sampling equipment.
<b>Trip Blank</b>	Ground water	This sample is to be submitted to the laboratory only when volatile organic compounds (includes BTEX and MTBE) are being analyzed. It indicates whether storage, shipment, or ambient environment of sample collection could have contaminated samples. <b>Only one trip blank per cooler</b> containing ground water VOC samples should be submitted for laboratory analysis.

The following items must be included in every laboratory analytical report submitted to IDEM:

**Laboratory Quality Control Data and Information:**

- Completed chain-of-custody
- Date and time of receipt at the laboratory
- Condition of samples upon receipt at the laboratory (i.e., temperature)
- Sample identification number or designation
- Sample preparation, extraction, cleanup, or digestion method(s) and date(s)
- Analytical method (name, number, and source) and date of analysis
- Final analytical results
- Case narrative (Includes deviations from standard analytical or preparatory procedure(s); quality control problems encountered--whether stemming from system, instrumentation, analyst error, or sample matrix; corrective measures taken; if



corrective measures as called for in the method were not taken; results of corrective measures taken; etc.)

These QA/QC procedures only apply if you are using a default approach to achieve closure. If a **nondefault approach** is being employed, **more stringent** sample collection and laboratory analyses QA/QC may be required.

For additional information on the minimum documentation of analytical quality assurance/quality control required by IDEM, please refer to <http://www.in.gov/idem/programs/land/lust/mindatadoc.html>.

IDEM also requests that all sampling results be submitted electronically to [LeakingUST@idem.in.gov](mailto:LeakingUST@idem.in.gov). Guidance on formatting sampling results for electronic submittal is posted at <http://www.in.gov/idem/programs/land/lust/electronicreporting.html>. At this time, IDEM is not requiring the electronic submittal of data, but is encouraging electronic submission to improve the quality and timeliness of technical reviews.

Any questions regarding sample handling and analysis should be directed to OLQ's Chemistry Section.

### **3.5 LUST Site Characterization**

In accordance with 329 IAC 9-5-5.1, a LUST site characterization must be conducted at all UST sites where a release of a regulated substance (i.e., petroleum or hazardous substance) to soil or ground water is confirmed. The goals of the site characterization are as follows:

- Define the full nature and extent of soil and ground water contamination related to the release,
- Evaluate the potential pathways and receptors, and
- Evaluate the remediation alternatives.

The LUST Site Characterization includes the Initial Site Characterization (ISC) and, in most cases, one or more subsequent Further Site Investigations (FSIs).

#### **Initial Site Characterization**

The ISC must be completed and a report submitted to the IDEM within 60 days from the date the release is confirmed. No time extensions

will be granted. The ISC report should include, but is not limited to, the following information:

- Site background
- Receptor evaluation
- Soil and ground water characteristics including ground water flow direction
- Environmental sampling results including a minimum of three soil borings with samples submitted for soil and ground water analysis
- Scaled maps
- Detailed description (work plan) of additional work to be completed for a FSI (including an ELTF Scope of Work (SOW) form if you are submitting claims for ELTF reimbursement)
- Health and safety plan

**Note:** although piezometers are acceptable for determining ground water flow direction during the ISC, monitoring wells are needed in order to do temporal monitoring of the ground water when ground water contamination is present.

Even though the ISC only requires three borings, the goal of the ISC is to fully determine the nature and extent of contamination. As such, an attempt should be made to completely define the soil and ground water plume by installing additional borings as time allows.

**Note:** All additional borings should be advanced following the default step-out procedures defined in Section 3.4.1.

If the ISC fails to fully define the nature and extent of contamination in the soil and ground water, a Further Site Investigation (FSI) may be necessary. An estimate of anticipated fieldwork required for the completion of a FSI should be included with the ISC Report.

### **Further Site Investigation**

If IDEM then determines that a FSI is required in accordance with 329 IAC 9-5-6, it should be submitted within the timeframe required by IDEM. An extension may be granted if a written request is submitted to IDEM before the due date. The written request should include both a justification for the additional time needed and provide a date by which the report will be submitted to IDEM. When offsite access issues are encountered, the justification should include information required by the “Access to Third Party Property” Non-Rule Policy Document available on IDEM’s website at [www.in.gov/idem/rules/policies](http://www.in.gov/idem/rules/policies). The FSI Report should include, but is not limited to, the following information:

- Details regarding soil borings and monitoring well installation and sample collection
- Environmental sampling results
- Scaled maps
- Detailed description (work plan) of additional work to be completed, including anticipated pilot study(s) as appropriate (an ELTF SOW form must be included if you have or plan to submit claims for ELTF reimbursement)
- An evaluation of remediation alternatives including effectiveness, ability to achieve cleanup, duration, reliability and permits (include estimated costs if you have or plan to submit claims for ELTF reimbursement)
- A Health and Safety Plan

The ISC and FSI reports must be submitted using the standardized templates included in Appendix 3.2 of this Chapter. All requirements of 329 IAC 9-5-5.1 and 6 must be met, in addition to the guidelines presented in this User's Guide and the RISC Technical Guide. If the standardized templates are not used, the IDEM may reject any non-standardized reports concerning the site characterization. Sites using the 1994 UST Branch Guidance Manual are also required to use these standardized forms.

As previously stated, if you wish to seek reimbursement under the ELTF program, once site characterization is complete and approved by IDEM, an ELTF Scope of Work Form for the CAP, detailing proposed corrective actions, pilot studies and their estimated level-of-effort must be submitted to IDEM for approval along with the CAP.

The following sections describe subsurface soil and ground water procedures used for default site characterization.

### **3.5.1            Default Subsurface Characterization**

The RISC default characterization process outlined in this section is slightly abbreviated from the process presented and outlined in the RISC Technical Guide. This does not mean that steps in the RISC process are skipped or eliminated. The RISC Technical Guide was designed to deal with a wide variety of waste sites and to address an extensive list of contaminants. This, in turn, necessitated the creation of numerous mechanisms to deal with a variety of site characterization scenarios. For typical LUST sites, the release has a source area less than 0.5 acre in size and occurs in a known location with the main media of concern being subsurface soil and ground water.

As such, rarely would it be appropriate to screen the surface soil during a LUST investigation. And although area screening for subsurface soil is an option, its use at LUST sites is infrequent, as most LUST source locations are generally known. Accordingly, the ELTF may not approve reimbursement for subsurface screening.

If you do have a site where subsurface screening is necessary (i.e., unsure as to the presence/location of historical USTs, please refer to Chapter 3 of the RISC Technical Guide for guidance). Likewise, when either the UST vault or source area exceeds 0.5 acre, the nondefault, large source-size characterization in Chapter 7 of the RISC Technical Guide should be consulted.

### **Step-Out Procedure**

This default site characterization process screens and determines the nature and extent of subsurface soil and ground water contamination. **It is called the Step-Out Procedure and is a two-step process.**

#### **Step 1**

Step 1 is typically performed in the event that a release is suspected at a facility. It consists of advancing five borings in the immediate area of the release (i.e., UST tank pit, dispenser island, etc.). One boring should be located at the spot expected to be the most contaminated (usually the center of the tank pit). Four borings should be placed at a uniform distance from the center boring (5 to 20 feet out) in each of the four general directions at perpendicular axes (see Figure 3-1). In areas where it may be impractical to use perpendicular axes, random orientation of the axes is acceptable. Wherever possible, an attempt should be made to orient one axis in line with the suspected or known ground water gradient.

Obviously, drilling a soil boring inside the center of an UST vault cannot occur when the USTs are present. So for screening that involves in-place UST systems, product lines, or dispenser islands these same steps should be followed with the exception that the center boring is to be omitted.

**Note:** While this step appears similar to the UST closure assessment, it is intended for screening purposes and different requirements apply.

Typically, one to two soil samples will be submitted from each soil boring for laboratory analysis. If possible, a ground water sample should also be collected from each boring.

### *Step 1 Soil Evaluation*

Following receipt of laboratory analytical results, the highest concentration of each individual soil COC is assigned as the **boring concentration** for its respective boring location.

Boring concentrations are then evaluated for each COC as follows:

- If all five boring concentrations are below the RISC Residential Default Closure Levels (RDCLs) for subsurface soils (see note below), soil characterization is complete and the soil is eligible for residential closure.
- If the boring concentrations in the four outer borings are below the RDCLs but the concentration in the center boring is above, a potential exposure concentration (PEC) should be calculated as the mean of the boring concentrations in all five borings plus one standard deviation. If the PEC is less than the closure level, the soil is eligible for residential closure. If the PEC is greater than the RDCL, then additional investigation (Step 2) will be required.

**Note:** The PEC can only be calculated for contaminants in unsaturated soils and should always be compared to the appropriate source size and land use-specific closure levels included in the RISC Technical Guide.

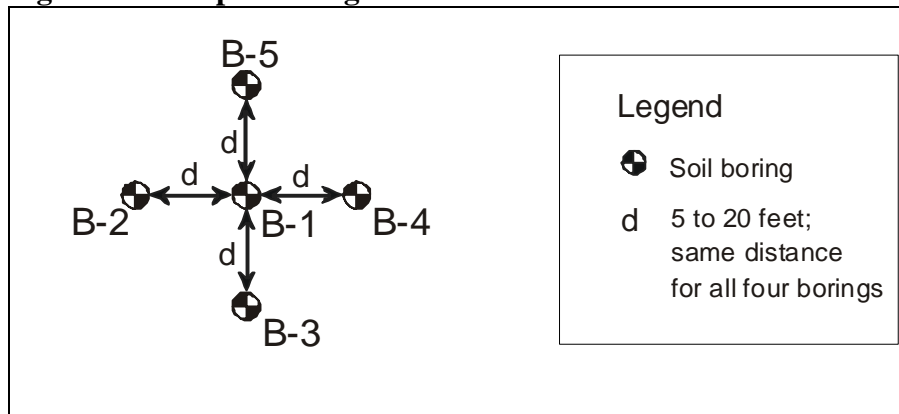
### *Step 1 Ground Water Evaluation*

Ground water contamination is evaluated as follows:

- If all ground water COCs are below the RDCLs, ground water characterization is complete, and the ground water is eligible for residential closure.
- If the ground water COCs in the four outer borings are below the applicable RDCLs, and the COCs in the center boring are above the RDCLs but below the RISC Industrial/Commercial Default Closure Levels (IDCLs), the site may attempt immediate closure under industrial closure guidelines.
- If any of the perimeter ground water COCs are at or above the RDCLs, then additional delineation (Step 2) is required.

**Note:** if all soil and ground water COCs are below the laboratory detection limits during the Step 1 Process, then the IDEM should be notified, and the suspected release deactivated. Likewise, once the presence of contamination is established, the IDEM must be notified, and the release confirmed.

**Figure 3-4. Step 1 Boring Placement**



## Step 2

Step 2 is to be performed once the release is confirmed and accordingly, expands the sampling area to complete the nature and extent of characterization.

The Step 2 characterization consists of placing additional borings outward from the center boring in each direction where the residential default closure levels were exceeded. These borings should be continuously placed 5 to 20 feet from each other along the axis until the boring concentration is at or below the closure levels for each COC. Distances between all borings along the two lines should be equal, if possible.

Releases around pump islands and lines should be characterized following the same procedures as used for the tank pit area. Generally, four soil borings should be sampled around the suspected release area and continue outward until sampling results do not exceed residential closure levels. Source removal rather than characterization is an option, but approval will be made on a site-by-site basis.

In areas where the pump islands and lines are located directly over the tank pit, a separate sampling event is not necessary. Likewise, if portions of the pump islands or lines fall within areas of the tank pit, it is not necessary to conduct a separate sampling event.

If possible and/or necessary, ground water samples should be collected from all Step 2 soil boring locations in order to establish the nature and extent of the dissolved-phase contamination. In addition to determining nature and extent, ground water sampling from the source area outward can also be useful for determining locations for plume stability wells and to evaluate the presence of free product in the source area. Plume characterization may be completed using any appropriate technology. For guidance regarding the installation of permanent ground water monitoring wells, you should refer to IDEM's Non-Rule Policy Document entitled "Drilling Procedures and Monitoring Well Construction Guidelines" located on the IDEM Geology website at <http://www.in.gov/idem/programs/land/geology/index.html>.

[**Note:** In this section, the IDEM has allowed the flexibility of stepping out 5 to 20 feet between boring locations so that it is possible to work around above- or underground obstacles that may be encountered in the vicinity of the source. This policy was not intended to encourage the practice of consistently stepping out the maximum distance of 20 feet between boring locations, as this may not accomplish adequate source characterization. Accordingly, it is **strongly recommended** that once the step-out procedure has potentially identified non-affected soils and/or ground water, that a conservative attempt be made to find the leading edge of the plume which may involve stepping back. Figure 3-5 illustrates an example of the Step 2 boring strategy for tanks that remain in place.]

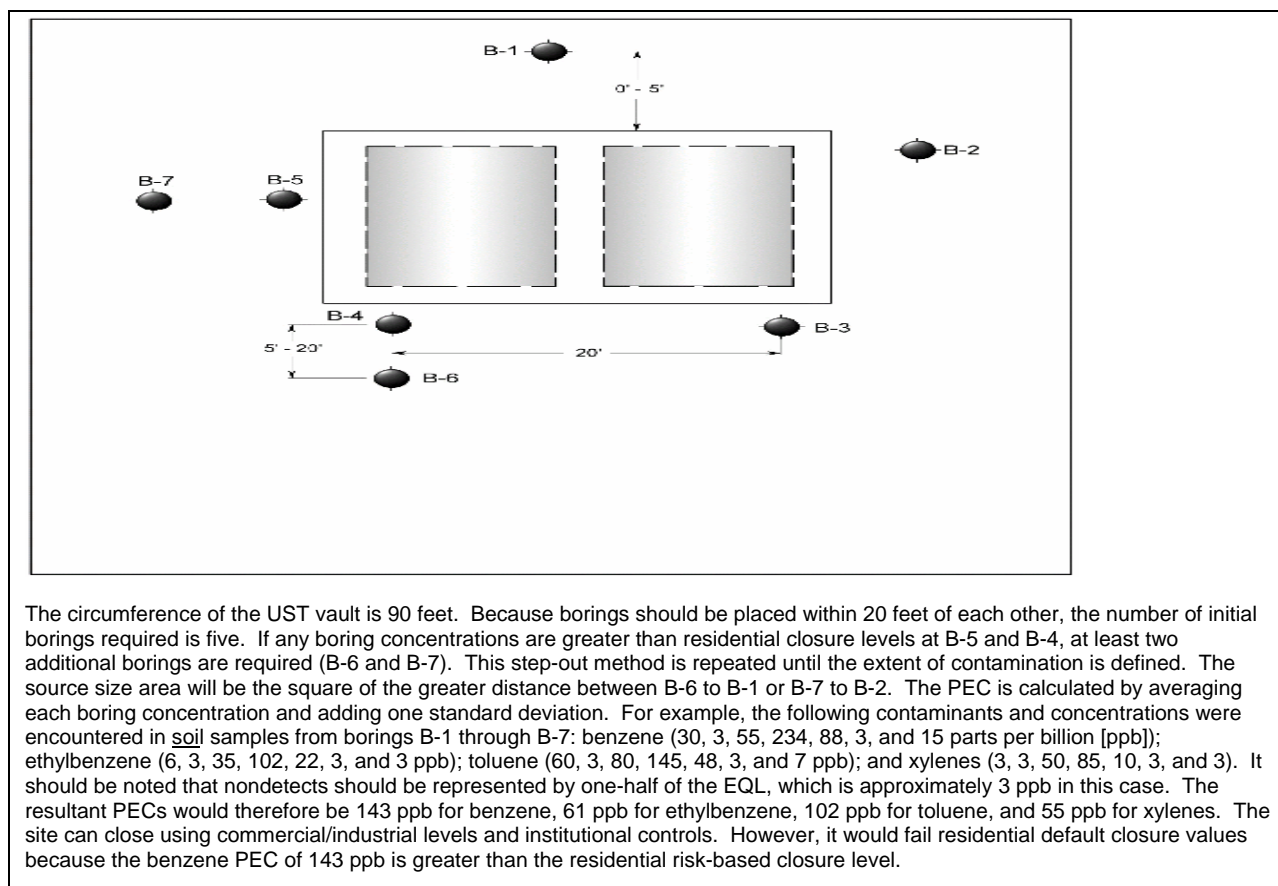
#### *Step 2 Soil Evaluation*

Once the extent of soil contamination has been determined in all compass directions (**note: all soil COCs must be delineated to RISC RDCLs before site characterization can be considered complete**), the PEC can again be calculated. During Step 2, the PEC of each analyte is determined as the mean plus one standard deviation of all boring concentrations exceeding the residential closure level plus a *maximum* of four boring concentrations (one in each direction from the source and close to the source) less than the residential closure level. Samples below the estimated quantitation limits (EQL) are calculated as  $\frac{1}{2}$  the EQL.

The PEC should be compared to the appropriate source size and land use-specific closure level defined in the RISC Technical Guide. The source size should be calculated by squaring the length of the longest transect. Source size categories are less than 0.25 acre and 0.25 to 0.5 acre.

- If the PEC is less than the appropriate default closure level, and the soil contamination is confined to the site, the site is eligible for soil closure. Be aware that if industrial closure is pursued, the site must also be prepared to have an institutional control in place (i.e., environmental restrictive covenant) which limits access and prevents exposure to the contamination remaining at the facility.
- If the PEC exceeds the default closure level, a Corrective Action Plan must be developed so that the soils can be remediated to the appropriate default closure levels.

**Figure 3-5: Illustration of Sampling Locations**



### *Step 2 Ground Water Evaluation*

After the nature and extent of ground water contamination has been determined in all compass directions (**note: all ground water COCs must be delineated to RISC RDCLs before site characterization**)



can be considered complete), remedial/closure options can be evaluated.

- If all ground water COCs are below the RDCLs, the site can be evaluated for immediate residential closure.
- If all ground water COCs are below the IDCLs, and the COCs are confined to the site, the facility may attempt immediate ground water closure using industrial closure guidelines. However, closure may not be possible until additional monitoring occurs and plume stability is demonstrated. Be aware that if industrial closure is pursued, the site must also be prepared to have an institutional control in place (i.e., environmental restrictive covenant) which limits access and prevents exposure to the contamination remaining at the facility.
- If ground water COCs exceed the RISC IDCLs in any one location, a Corrective Action Plan must be developed so that the ground water can be remediated to the appropriate default closure levels.

For information concerning the various ground water monitoring programs, please consult the RISC Technical Guide.

### **3.5.2 Smear Zone Characterization**

The IDEM does not require smear zone sampling for the evaluation of the migration to ground water and direct contact pathways. If the smear zone is sampled, you would not use the analytical results for calculation of a potential exposure concentration (PEC). However, investigation of the smear zone is often an important consideration for selection of a remedial technology, and for evaluating progress in remediation. Also, it is often important to sample the smear zone when evaluating ground water impacts. Contaminant of concern concentrations in ground water can fluctuate seasonally. They can be present at safe concentrations (or perhaps below detection limits) during the dry periods of the year when the water table is low. During wetter periods when ground water levels are higher, COCs can exceed safe levels due to aquifer contact with the smear zone. If ground water concentrations fluctuate seasonally, IDEM staff may wish to evaluate the smear zone to determine if this is the source of the fluctuation. For these reasons, IDEM technical staff may require samples from the smear zone.

### **3.5.3 Soil Gas and Indoor Air Sampling**

Sites with petroleum contamination may present a public health hazard if compounds volatilizing from ground water or soil migrate into a building where people are exposed. The completion of this human exposure pathway from volatile organic compounds (VOCs) in the subsurface environment is termed “Vapor Intrusion”.

Though relatively rare at LUST sites, this human exposure pathway must be evaluated. Initial field observations can determine if your site is a potential candidate for soil gas or indoor air sampling. Some things to be evaluated before considering the possibility of soil gas and/or indoor air sampling are as follows:

- What contaminants are found at the site? Is benzene present?
- Are there noticeable petroleum odors or complaints of petroleum odors?
- Is ground water present within five feet of the basement, crawl space, slab, or ground surface?
- Do preferential pathways exist?
- What soil types are present?

IDEM approval and notification is required prior to any soil gas or indoor air sampling. Contact your IDEM project manager if (based upon the initial screening criteria) you believe this human exposure pathway exists at your facility.

### **3.5.4 Sampling Point Nomenclature and Mapping**

#### **Sampling Point Nomenclature**

Consistent sampling point nomenclature should be used. The IDEM realizes that different consulting companies have different protocols concerning sampling point nomenclature and when a project is transferred to a new company, there is the potential for inconsistencies.

For sites regulated under the LUST and ELTF programs, the following prefixes are suggested:

GP-##	Used for all borings advanced using a direct-push (Geoprobe™) technology
SB-##	Used for all soil borings advanced using conventional drilling technologies (hollow-stem auger, air-rotary, etc.)
MW-##	Used for all permanent monitoring wells
PZ-##	Used for ground water observation points or other temporary ground water monitoring points
AS-##	Air-Sparge point
SVE-##	Soil vapor extraction point
DPE-##	Dual-phase extraction well
MPE-##	Multi-phase extraction well

When labeling wells numerically, no numbers should be skipped. Additionally, the suffix “R” should follow any replacement well or boring. For example: if monitoring well “MW-1” were destroyed during excavation events, its replacement would be labeled “MW-1R”. Please note: a well is typically considered a “replacement well” if it is installed within the same geologic unit approximately 10 ft of the original monitoring point.

The IDEM realizes that inevitably, variations will occur. However, every effort should be made to use this uniform naming system for each facility; one that is appropriate for the current work being performed as well as compatible with all previous work performed at the site.

### **Sampling Point Mapping**

As required previously, all permanent monitoring wells and sampling points must be surveyed and presented on a scaled site map. The IDEM is now also requiring at least one Global Positioning System (GPS) reference point for every facility. This point should also be depicted on a site map so that it may be viewed relative to the sampling (borings and monitoring well) locations.

The IDEM has developed the following data field information as guidance to external sources of GPS data collectors so that data accurately and reliability can be verified and supported. The following information also facilitates future use of the data. IDEM would prefer copies of the data (data dictionary [if available], each [raw] data file, any base station files used for corrections, and the final product) as an electronic file in either text, Access, or Excel format(s).

<b>GPS Reporting Parameters</b>	
Identifier	Identification of the facility or unit that is being regulated or managed (FID Number, LUST Incident Number, etc.)
Collector Name	The name of the individual that collected the data
Time/Date Recorded	The time/date when the latitude and longitude were collected
Receiver Type	Description of the GPS receiver used to collect the locational coordinates
Total Positions	Number of GPS positions used to determine the locational coordinates of the feature
Feature Indicator	Describes the feature that was collected (access point, corner point of a boundary, boundary point (general), etc.
State Program of Facility	The state program the facility is regulated under (i.e., LUST)
Correction Status	Description of the correction method applied to the GPS data. (i.e., Differential Correction, Realtime Correction, No Correction, etc.)
Maximum PDOP	Position Dilution of Precision (GPS unit calculated measurement)
Data File Name	Name of the GPS rover file containing the locational data information
Standard Deviation	Measure of the variance within the positions used to calculate the feature coordinate
Datum	Name of the reference datum used to collect the latitude and longitude. (The standard state Datum is NAD83)
Projection	Describes the projection the latitude and longitude were collected in. (The standard Projection is UTM Zone 16N in meters)
Units	Describes the units the latitude and longitude were collected in. (feet, meters, dd:mm:ss, dd.dddd, etc.)
GPS Comments	Information concerning data collection—particularly if there is any offset information, important factors, nearby objects, etc.
Address	Street address of the facility or nearest intersection if address is not available
City Name	Name of the city in which the facility is located
County Name	Name of the county in which the facility is located
Zip Code	Five-digit zip code

## 3.6 Closure Options

RISC provides flexibility in selecting the type of remedy that best achieves closure goals for the site. Closure can be achieved with or without institutional controls.

The goal of RISC procedures is to reach closure, which is defined as: *IDEM's written recognition that a party has demonstrated attainment of specific remedial or screening objectives (closure levels) for COCs at a particular area.*

Closure options can differ for each medium. For example, even if site characterization demonstrates that no further action is needed for closure with unrestricted exposure for soil, closure with institutional controls may be necessary if the site has a stable ground water plume.

The following sections describe closure procedures both with and without institutional controls.

### 3.6.1 Closure With Institutional Controls

If engineering controls or restrictions of site activities are used to prevent exposure to site contamination, evidence of the suitability, effectiveness, and continued protection of those controls must be supplied. Institutional controls provide this evidence.

Closure with institutional controls generally requires the use of an Environmental Restrictive Covenant (ERC), that provides information on the nature and extent of residual contamination and the methods used to control that contamination. The ERC must stipulate that the exposure prevention mechanism established at the site will be maintained, and it must prohibit future changes to the site that would interfere with any such mechanism.

The Environmental Restrictive Covenant must be recorded on the deed of the affected property. **An ERC is also required for any property where industrial criteria were used to achieve closure.** Appendix 3.3 in the User's Guide provides more information on the Environmental Restrictive Covenant and ground water ordinance requirements. Nondefault institutional controls are discussed in the RISC Technical Guide.

Additional post-closure care activities are required for engineering controls and may be required for activity restrictions. In addition, property control must be obtained and demonstrated where a ground water plume has affected an off-site property. Sites where closure has been achieved with institutional controls may pursue closure with unrestricted exposure at any time by remediating contamination to default residential closure levels. Additionally, if contamination has attenuated over time down to the residential closure levels, a site can petition to have the ERC modified to reflect that the site is now safe for unlimited exposure.

### **3.6.2 Closure With Unrestricted Exposure**

There are two ways to achieve closure with unrestricted exposure: either the site characterization must demonstrate that contamination is below residential closure levels, or active remediation must reduce contamination to residential closure levels. For closure utilizing remediation, a Corrective Action Plan (CAP) should be developed. For closure without remediation, the investigation report can serve as both the CAP and the closure report.

**Please note:** In accordance with 328 IAC 1-3-5(d)(13), the ELTF fund will only reimburse for remediation efforts to commercial/industrial closure levels. If a site in the ELTF program wishes to continue remediation efforts in order to achieve residential closure levels, they must do so at their own expense. Exceptions to this do occur, and are outlined in 328 IAC 1-3-5(d)(13)

### **3.7 Corrective Action Plans**

Once the site characterization is approved by IDEM and corrective action is determined to be necessary, a CAP must be developed in accordance with 329 IAC 9-5-7. **A CAP will not be considered for review by IDEM unless an adequate site characterization has been completed.** The goal of the CAP is to design a remedial strategy to reduce contamination levels in the soil and ground water to levels that pose an acceptable risk for human health and the environment

The CAP must include, but is not limited to the following:

- Remedial design
- Scaled maps
- Listing of required permits

- Schedule for implementation including construction, operation and maintenance as appropriate
- Remedial monitoring and reporting program
- Health and safety plan
- ELTF SOW if you have submitted or plan to submit claims for ELTF reimbursement

Information should be current for items such as quarterly monitoring results, sampling results, and ground water flow maps. The CAP must discuss various available options and provide justification for the closure option selected.

The CAP will differ depending on which remedial option is selected and whether active remediation is used to achieve cleanup goals. Sites that demonstrate compliance with closure levels during characterization can include CAP information in the site investigation report. Sites where remediation is conducted to attain closure must also demonstrate that the selected remedial technology will be effective if not already addressed in the FSI.

Standardized reporting formats for the CAP have been provided in Appendix 3.2 of this Chapter. These templates are also available on the LUST website.

More information and more justification for proposed remedial options will be required for sites that are high priority, that impact an exposure pathway not considered by the default (such as surface water), and technologies that lack adequate information demonstrating effectiveness. These sites will also undergo a higher level of IDEM review. In addition, for the high priority sites with the potential to impact the surrounding community and in accordance with 329 IAC 9-5-8, the IDEM may decide to hold public meetings or solicit public comments concerning the proposed CAP.

### **3.7.1 Remediation Technology Evaluation**

The IDEM recognizes a variety of proven effective remedial technologies for certain site conditions. These include, but are not limited to: soil vapor extraction (SVE), dual- or multi-phase extraction (DPE/MPE), oxygen release compounds (ORCs) injection, air sparging, soil excavation and disposal, etc.

Site-specific conditions determine which technology would be most effective at any given site and accordingly, every site must be

evaluated individually as there is no “one-size-fits-all” approach to remediation.

Land farming or land treatment of petroleum-contaminated soils is also a remediation option; however, this method should be approached with caution. If a land treatment cell is not constructed properly or, if it is placed in an inappropriate location (i.e., steep slope, topographic low-lying area, close vicinity to human receptors, close proximity to surface waters), it could inadvertently create additional environmental problems at a LUST site, and potentially delay closure. **Accordingly, written IDEM approval is required before any land treatment can occur.**

**Note:** The Land Treatment Guidelines (included in the 1994 LUST Guidance) should be used as a reference when designing a land treatment cell and a quarterly sampling program.

For assistance with selecting the most appropriate and cost-effective remedial technology for your site, you can visit US EPA’s Technology Innovation Program web site at <http://www.epa.gov/tio/> or the Hazardous Waste Clean-up Information (CLU-IN) web site at <http://clu-in.org/>. You also should consult the Geological Services program for new or innovative technologies at 317/234-0991.

### **3.7.2 CAP Implementation**

A CAP must be implemented immediately in accordance with the schedule included in the CAP upon receipt of the approval letter from IDEM. Once CAP system installation and start up or construction is complete, a CAP Implementation Report documenting all implementation activities should be submitted within 60 days.

### **3.7.3 Quarterly Reporting**

As described in 329 IAC 9-5-7(f)(1)(L), quarterly reporting is required under three circumstances:

- Quarterly monitoring prior to corrective action (should be submitted only when requested by IDEM)
- Corrective Action monitoring
- Monitored natural attenuation (MNA) and closure monitoring such as plume stability

The type and frequency of monitoring and reporting should be detailed in the CAP.



## **3.8 LUST Report Formatting, Signatures and Submittals**

### **Formatting**

All LUST reports should use the standardized report formats:

- LUST Initial Incident Report
- Suspected Releases Confirmation Steps Report
- 20-day Abatement and Free Product Removal Report
- Initial Site Characterization (ISC) Report
- Further Site Investigation (FSI) Report
- Corrective Action Plan (CAP)
- Corrective Action Implementation Report
- Corrective Action Progress Report (CAPR) for non-engineered approaches
- CAPR for engineered systems
- LUST Closure (No-Further-Action) Request Report

These forms are included in Appendix 3.2 and can be found at the LUST web site. Three copies of all submittals are required by IDEM unless otherwise directed by your project manager.

### **Signatures**

All LUST reports must be signed by one of the following individuals registered or licensed in the State of Indiana:

- Professional Engineer
- Professional Geologist
- Certified Hazardous Materials Manager
- Professional Soil Scientist

### **Submittal**

All LUST Reports should be sent to the following address:

Indiana Department of Environmental Management  
Leaking UST Section  
100 North Senate Avenue, Room 1101  
Indianapolis, IN 46204-2251

For information about the form and number of reports to submit, consult the IDEM OLQ Project Managers

### **3.9 ELTF Eligibility and Claims Guidance**

The ELTF is administered by the Excess Liability Trust Fund (ELTF) Program and was created under IC 13-23-7 through 9 (previously IC 13-7-20) to provide the following:

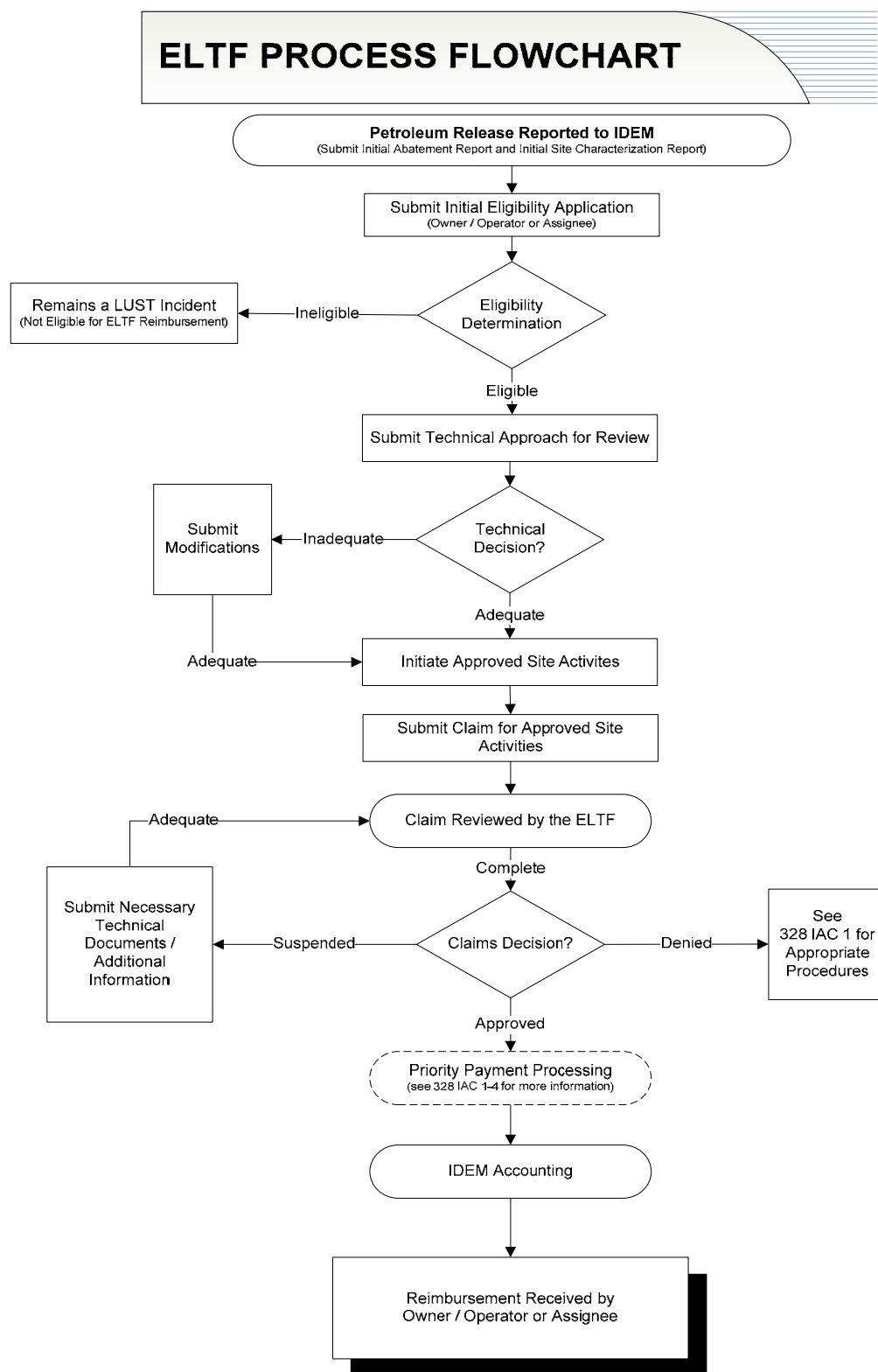
- A method to reimburse eligible tank owners for LUST cleanup costs and any third-party liability costs
- A method to help tank owners fulfill federally required financial assurance requirements
- A method to guarantee loans for tank owners who wish to upgrade their present systems but are unable to obtain financing

It is the ELTF Program's responsibility to ensure that ELTF-eligible remediation activities associated with characterization and corrective action are appropriate, cost-effective, and performed only as necessary to meet the clean-up objectives for the site. All investigation and corrective action activities must be consistent with the requirements of 329 IAC 9, and other applicable State and Federal laws and regulations. The applicable sections of 328 IAC 1 (including definitions) IC 13-23 and IC 13-11 (for statutory definitions) should always be consulted in conjunction with this chapter.

Once a release is discovered at a site, the responsible party is encouraged to file a claim as early in the LUST process as possible to determine ELTF eligibility status.

Figure 3-6 depicts the ELTF Claims Process.

**Figure 3-6**  
ELTF Process Flowchart



UST owners who want to make claims to the ELTF need to be aware of eligibility requirements that relate to their particular release. These

requirements have changed since the original statute was passed and 328 IAC 1 has been amended. The current eligibility requirements are contained in 328 IAC 1-3-3 and are summarized below:

- All regulated USTs must have been registered with IDEM at the time of the discovery of the release. If unregistered tanks are present, a percentage-based reimbursement will be made depending on the number of tank fee payments that have been missed.
- All tank registration fees must be current. If tank fee payments have been missed, a percentage-based reimbursement will be made depending on the number of tank fee payments that have been missed. If less than 50 percent of the payments have been made, the claim will be deemed completely ineligible. The formula for reimbursement for owners and operators who have failed to pay tank fees due under IC 13-23-12-1 is available in [328 IAC 1-3-3\(b\)](#).
- Any release from the UST system must be reported to IDEM and have an incident number assigned.
- Site Characterization or No Further Action have been approved in writing by IDEM, or a CAP for remediation of the site has been approved in writing by IDEM or deemed approved in accordance with [IC 13-23-8-4](#).
- The UST owner or operator must have been in compliance with all applicable federal and State laws and regulations governing USTs by the date the requirements became effective.
- The UST owner or operator has not defaulted on a loan with the loan guaranty program.
- The deductible specified in [IC 13-23-8](#) has been paid.

**Note:** Approved emergency measures are eligible for reimbursement from the fund prior to Site Characterization Approval.

Additional information relating to activities involved with the site remediation process can be obtained by sending a letter to the address below or calling (317) 234-0990.

Leaking Underground Storage Tank Section  
Indiana Department of Environmental Management  
100 North Senate Avenue, Room 1101  
Indianapolis, IN 46204-2251

The following subsections discuss ELTF site prioritization, deductibles, examples of eligible expenses, examples of ineligible expenses, and instructions for application for ELTF eligibility. Application packages are available by calling (317) 234-0990.

### 3.9.1 ELTF Site Prioritization

The ELTF has a **separate** ranking system to determine the priority with which release investigation and clean-up costs will be eligible for reimbursement. This ranking system allows IDEM to first reimburse for the releases that pose the greatest risk to human health and the environment. For more specific information, consult 328 IAC 1-4-1 and 1-4-1.5.

Site prioritization begins when the ELTF balance drops below \$25,000,000.00. Prioritization of claim payments begins when the ELTF balance drops below \$5,000,000.00. When this happens, Emergency Measures costs are paid first. Other costs are not reimbursable until Site Characterization approval, Corrective Action Plan approval, or until a No Further Action letter has been issued. Once one of these milestones is reached, claims are then paid according to the following prioritization:

- **Category 1 (Paid First)**
  - Concentrations of vapors in sewers or conduits are greater than 10% of the lower explosive limit (LEL)
  - Concentrations of vapors in habitable buildings are greater than long-term, risk-based exposure limits
  - Contaminants in the drinking water supply are greater than the RISC default residential closure level or maximum contaminant levels (MCLs)
- **Category 2**
  - Free product in a thickness of at least one (1) foot is present in any monitoring well
  - At least one (1) inch of free product is present in any two monitoring wells spaced 20 feet or more apart
  - Surface water contamination is present above the water quality standards defined by the rules of the Water Pollution Control Board defined in 327 IAC 2
- **Category 3**
  - Offsite contamination is present at concentrations greater than the RISC default cleanup objective appropriate for land use in soil (100 ppm TPH for sites using 1994 UST Branch Guidance) or ground water
  - Free product with a thickness of at least 1/16 of an inch is present in any monitoring well

- On site ground water contamination is attributable to a gasoline release greater than the RISC default closure level based on the current land use
- **Category 4**
  - On site contamination is present at concentrations greater than the RISC default industrial cleanup objective in two or more monitoring wells that are spaced 20 feet or more apart
  - On site contamination is present at concentrations greater than the RISC default industrial cleanup objective (100 ppm TPH for sites using 1994 UST Branch Guidance) in two or more borings spaced 20 feet or more apart
- **Category 5**
  - Any other releases

All claims submitted under identical categories will be paid by priority ranking in chronological order according to the date and time received by the administrator.

### **3.9.2 Deductibles [IC 13-23-8-3]**

The applicable deductible for petroleum UST involved in an incident for which claims are made is \$35,000 if the conditions below both apply.

- The UST is NOT in compliance with rules adopted by the Solid Waste Management Board concerning technical and safety requirements relating to the physical characteristics of petroleum USTs before the date the tank is required to be in compliance.
- The UST is in compliance with rules cited above on a date required in [IC 13-23-8-4](#) at the time the release was discovered.

The deductible for a petroleum UST involved in an incident for which a claim is made is \$30,000 if the conditions below both apply.

- The UST is in compliance with rules adopted by the Solid Waste Management Board concerning technical and safety requirements relating to the physical characteristics of petroleum USTs before the date the tank is required to be in compliance.
- The UST is not a double-walled petroleum UST with double-walled piping.

The deductible for a petroleum UST involved in an incident for which a claim is made is \$25,000 if the conditions below both apply.

- The UST is in compliance with rules adopted by the Solid Waste Management Board concerning technical and safety requirements relating to the physical characteristics of petroleum USTs before the date the tank is required to be in compliance.
- The UST is a double-walled petroleum tank with double-walled piping.

If the owner or operator has 100 or fewer USTs, the owner or operator cannot receive more than a total of \$2,000,000 minus the deductible from the ELTF per year. If the owner or operator has more than 100 USTs, the owner or operator cannot receive more than a total of \$3,000,000 minus the deductible per year from the ELTF. The maximum amount allowed per occurrence (including 3<sup>rd</sup> party liability claims) is \$2,000,000 minus the deductible. [IC 13-23-8-2 and IC 13-23-8-8].

### **3.9.3 Examples of Eligible Expenses**

The following partial list is provided to assist owners and operators in recognizing the types of expenses eligible for reimbursement under the ELTF program. A complete listing of reimbursable costs is available in [328 IAC 1-3-5](#).

- Costs incurred from releases first discovered or suspected on or after April 1, 1988.
- Administrative costs such as the following:
  - Travel, lodging, and per diem costs to be paid in accordance with the most current Indiana Department of Administration financial management circular covering State travel policies and procedures
  - Attorney fees if incurred by the owner or operator in defense of litigation in a third-party liability claim
  - Sales tax and governmental administrative fees for local, State, or federal permits necessary for corrective action.
- Investigation and remediation costs, such as the following:
  - Investigation costs, including environmental assessment, field time, report writing, and clerical support
  - Costs for soil and water sampling of petroleum and petroleum constituents in accordance with IDEM guidelines



- Expenditures for machinery and equipment<sup>1</sup>
- Materials and supplies, such as disposable protective equipment, building materials (e.g., piping and cement), and sample preservatives
- Provision of alternate water supply<sup>2</sup>
- Markup on purchases based on unit rates or lowest bid of 10% with the exception of those listed in the “Ineligible Expenses”.
- Miscellaneous costs, including any other costs deemed reasonable and necessary for corrective action or payment of third-party liability claims.

### **3.9.4 Examples of Ineligible Expenses**

The following partial list is provided to assist owners and operators in recognizing the types of expenses that are not eligible for reimbursement under the ELF program.

- Capital improvement costs, such as the following:
  - New tanks or equipment
  - Installation of new tanks or equipment
  - Bedding material for new tanks or equipment (such as pea rock, sand, or special fills used to seat or bed tanks)
  - Concrete, asphalt, or other resurfacing materials reasonably necessary for restoration but in excess of 110 percent of the total surface dimensions of the original surface material or where surface material did not previously exist
  - Property improvement
  - Higher quality surfacing than previously existed (for example, replacement of 4-inch non-reinforced concrete with 6-inch reinforced concrete with a gravel base)
- Administrative costs such as the following:
  - Interest expenses and finance charges
  - Fines and penalties
  - Punitive or exemplary damage charges
  - Any other costs not directly related to corrective action or third-party liability or otherwise determined to not be reimbursable

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<sup>1</sup> These costs must be prorated based on the normal expected life of the item and the length of time the item was used for a single corrective action. In no case will the ELTF pay for purchase of machinery and equipment in excess of the market cost of leasing the item.

<sup>2</sup> This must be included in a CAP approved by IDEM.

- Administrative costs and application fees paid to IDEM for participation in the Voluntary Remediation Program (VRP)
- Environmental costs such as the following:
  - Laboratory work related to
    - Testing of tank contents (such as water, sludge, sand, and petroleum product) for disposal
    - Analysis using unapproved testing methods
    - Analysis of inappropriate constituents
  - Cleanup work related to
    - Removal of tank contents
    - Assessment of cleanup of any material other than gasoline, natural gas condensate, jet fuels, diesel fuels, heating fuels, kerosene, crude oils, waste oils, or mixed petroleum products
    - Excavation costs beyond the backfill area of the tank(s) unless part of an approved CAP.
    - Costs associated with remediation that exceeds the minimum requirements to bring a site into compliance with state environmental standards
  - Other items, such as consultant “markups” on
    - Subcontractor expenses
    - Travel
    - Utility bills
    - Per diem expenses
  - Equipment purchases that cannot be charged to a specific site, such as drilling rigs, earth-moving equipment, photoionization detectors, explosimeters, and hand tools.
- Miscellaneous costs such as the following:
  - Business down time
  - Any increased cost of cleanup with the goal of limiting business down time
  - Damage caused by excavation equipment or any other equipment
  - Contractor costs not directly related to corrective action activities, such as preparing cost estimates, preparing bids, accounting billing functions, computer use and time, and preparation of the ELTF application
- Credits, rebates and refunds given to the owner or operator for costs associated with the investigation or corrective action.
- Costs incurred more than 24 hours prior to the date and time of the release report to IDEM.
- Costs to cleanup a release beyond the required cleanup levels/objectives based on the appropriate cleanup guidance, i.e., 1994 UST Branch Guidance Manual or RISC.

### **3.9.5 Instructions for Application for ELTF Eligibility or Reimbursement**

The eligibility determination process examines whether or not a person listed under 328 IAC 1-3-1 is eligible to receive reimbursement and, if so, what percentage will be reimbursed. The affected site must have an approved emergency action, site characterization, or corrective action plan before reimbursement will be made for claims relating to these plans. The owner/operator must be in compliance with the eligibility requirements as outlined in 328 IAC 1-3-3. Those seeking an eligibility determination or those seeking to receive reimbursement from the ELTF should submit two completed copies of the ELTF application to the address below:

Indiana Department of Environmental Management  
Excess Liability Trust Fund  
100 North Senate Avenue, Room 1101  
Indianapolis, IN 46204-2251

Applicants will be informed by letter of the status of their eligibility for reimbursement. Any cost(s) that are not reimbursable will be identified.

### **3.10 Additional Resources on the Internet**

Additional LUST guidance can be obtained by contacting the LUST Section or at the following Internet links:

- Indiana Code (IC) 13-23 – Underground Storage Tanks:  
<http://www.in.gov/legislative/ic/code/title13/ar23/>
- 329 Indiana Administrative Code (IAC), Article 9, Underground Storage Tanks:  
<http://www.in.gov/legislative/iac/title329.html>
- IDEM LUST Program:  
<http://www.in.gov/idem/programs/land/lust/index.html>
- IDEM UST Program:  
<http://www.in.gov/idem/programs/land/ust/index.html>
- IDEM ELTF Program:  
<http://www.in.gov/idem/programs/land/eltf/index.html>
- IDEM Voluntary Remediation Program  
<http://www.in.gov/idem/programs/land/vrp/index.html>
- IDEM State Cleanup Program  
<http://www.in.gov/idem/programs/land/statecleanup/index.html>
- IDEM RISC Program  
<http://www.in.gov/idem/programs/land/risc/index.html>
- IDEM Geological Services  
<http://www.in.gov/idem/programs/land/geology/index.html>

- IDEM Solid Waste Information:  
<http://www.in.gov/idem/programs/land/sw/index.html>
- IDEM Permit Guide  
<http://www.in.gov/idem/permits/guide/index.html>
- Indiana DNR Water Well Record Database:  
[http://www.in.gov/dnr/water/ground\\_water/well\\_database/](http://www.in.gov/dnr/water/ground_water/well_database/)
- U.S. EPA UST Program  
<http://www.epa.gov/OUST/overview.htm>
- U.S. EPA Technology Innovation Program  
<http://www.clu-in.org/>